

3. The wiring substrate according to claim
1, wherein

a cover for hermetically sealing said
high-frequency component is attached to the
5 surface of said dielectric substrate.

4. The wiring substrate according to claim
1, wherein

the conductor layer in said high-frequency
connecting pad is hollowed inward from the
10 reverse surface of the dielectric substrate.

5. The wiring substrate according to claim
1, wherein

two or more high-frequency connecting pads
are formed on the reverse surface of said
15 dielectric substrate.

6. The wiring substrate according to claim
1, wherein

said transmission line is a microstrip line,
and

20 said matching section comprises a
microstrip line having an opened terminal end,
a slot hole formed in a ground layer for the
microstrip line, and a dielectric provided below
the slot hole.

25 7. The wiring substrate according to claim

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6, wherein

said slot hole is formed at the center of the opening of said high-frequency connecting pad,

a vertical conductor for connecting said
5 ground layer and said high-frequency connecting pad is formed along said opening, and

said matching section is formed in a region enclosed by the vertical conductor.

8. The wiring substrate according to claim
10 1, wherein

said dielectric substrate is composed of ceramics.

9. The wiring substrate according to claim
1, wherein

15 said wiring substrate being mounted on a predetermined wiring board by connecting said high-frequency and power pads to the wiring board by a brazing material.

10. A wiring board comprising:

20 a dielectric board;

a waveguide structure penetrating the dielectric board from its surface to its reverse surface, having a predetermined cross-sectional opening shape, and having its inner wall coated
25 with a conductor; and

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a high-frequency connecting pad provided around said waveguide structure on the surface of said dielectric board.

11. A wiring substrate mounting structure
5 in which a wiring substrate is placed on a surface of a wiring board, wherein

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said wiring board comprises a waveguide structure penetrating a dielectric board from its surface to its reverse surface, having a
10 predetermined cross-sectional opening shape, and having its inner wall coated with a conductor, and a high-frequency connecting pad provided around said waveguide structure on the surface of said dielectric board,

15 said wiring substrate has a dielectric substrate having a high-frequency component and a transmission line formed on its surface, said dielectric substrate being formed with an opening in a predetermined cross-sectional
20 shape, a high-frequency connecting pad being formed around said opening on a reverse surface of said dielectric substrate, and a matching section for high-frequency coupling said transmission line and the waveguide structure to
25 each other being formed in said opening, and

16. The wiring substrate mounting structure
5 according to claim 11, wherein

17. The wiring substrate mounting structure
according to claim 11, wherein

18. The wiring substrate mounting structure
according to claim 11, wherein

19. A wiring substrate mounting structure,
wherein

a plurality of wiring substrates having high-frequency components respectively carried thereon are mounted on a surface of a wiring board, and another wiring substrate is mounted

on a reverse surface of said wiring board,

1 said wiring board comprises at least two
waveguide structures each penetrating a
dielectric board from its surface to its reverse
5 surface, having a predetermined cross-sectional
opening shape, and having its inner wall coated
with a conductor, and high-frequency connecting
pads respectively provided around said waveguide
structures on the surface and the reverse surface
10 of said dielectric board,

each of said wiring substrates mounted on
the surface of said wiring board has a dielectric
substrate having a high-frequency component and
a transmission line formed on its surface, said
15 dielectric substrate being formed with an
opening in a predetermined cross-sectional
shape, a high-frequency connecting pad coated
with a conductor layer around said opening being
formed on a reverse surface of said dielectric
20 substrate, and a matching section for
high-frequency coupling said transmission line
and the waveguide structure to each other being
formed in said opening, and

said wiring substrate mounted on the reverse
25 surface of said wiring board has a dielectric

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substrate having a transmission line formed therein, said dielectric substrate being formed with two openings in a predetermined cross-sectional shape, a high-frequency
5 connecting pad coated with a conductor layer around each of said openings being formed on the surface of said dielectric substrate, and a matching section for high-frequency coupling said transmission line and the waveguide
10 structure to each other being formed in each of said openings, and

the openings of the wiring substrates mounted on the surface of the wiring board are respectively coupled to said two waveguide
15 structures on the surface of said wiring board, and the opening of the wiring board mounted on the reverse surface of said wiring board is coupled to said two waveguide structures on the reverse surface of the wiring board.